

CLAIMS

[1] (Amended) A coordinate mutual conversion module for mutually converting:

- 5 a mesh code for displaying a position in a combination of a block number of a block, a unit number of a unit, and a mesh number of a mesh, wherein a globe is divided into six in the east-west direction along longitudes at intervals of 60 degrees, and divided into at least three in the south-north direction along latitudes to define a plurality of numbered blocks, each of said
- 10 blocks is divided into 100 in the east-west direction and in the south-north direction, respectively, to define a plurality of numbered units in a square shape, and each of said units is divided into 100 in the east-west direction and in the north-south direction, respectively, to define a plurality of numbered meshes in a square shape; and for mutually converting
- 15 respective latitudes and longitudes of new positioning system coordinates and old positioning system coordinates, and coordinate values of X, Y coordinates corresponding to the new positioning system coordinates, and the old positioning system coordinates, respectively,
- said coordinate mutual conversion module comprising:
- 20 input means for entering each of the latitude/longitude and the coordinate values;
- block number selecting means for finding in which blocks each of the latitude/longitude and the coordinate values are located;
- unit number selecting means for finding in which units in the block
- 25 found by said block number selecting means each of the latitude/longitude and the coordinate values are located;

BEST AVAILABLE COPY

mesh number selecting means for finding in which meshes in the unit found by said unit number selecting means each of the latitude/longitude and the coordinate values are located;

output means for calculating and delivering the latitude/longitude, and the coordinate values corresponding to the position in the mesh code representation;

home position setting means for identifying a position by omitting the unit number and entering only the mesh number when data is entered;

mesh code input means for entering the mesh code having a selected number of digits in accordance with an application from among the block number, the unit number, and the mesh number; and

mesh code output means for selecting and delivering a number of digits required in accordance with an application from among the mesh code composed of the block number, the unit number, and the mesh number.

[2] (Deleted)

[3] (Deleted)

20

[4] (Deleted)

[5] (Amended) A geographic information system having the coordinate mutual conversion module according to claim 1, and a database including the latitude/longitude and the coordinate values for managing digitized maps on a

computer to display a position, wherein:

said coordinate mutual conversion module converts the latitude/longitude and the coordinate values of said database to the mesh code to utilize said database, and converts the latitude/longitude and the coordinate
5 values to a mesh code to create a database based on the mesh code.

[6] The geographic information system according to claim 5, comprising:

display means for displaying a map with the mesh code
10 superimposed thereon;

direct input means for entering an arbitrary position as the mesh code having a selected number of digits; and

means for searching for a position based on the mesh code for the arbitrary position or for searching for a position the mesh code entered through
15 said direct input means.

[7] (Amended) A global positioning system having the coordinate conversion module according to claim 1 for acquiring information on a current position from a coordinate system for the global positioning system, wherein:

20 said global positioning system regards acquired information on latitude/longitude as the same as the latitude/longitude of the new positioning system coordinates, converts the acquired information to the mesh code by said coordinate mutual conversion module, and delivers the mesh code.

25 [8] (Amended) A portable terminal including the global positioning system according to claim 7, said portable terminal comprising:

number of digits to said vehicle.

[20] (Amended) A program for causing a computer to execute processing for mutually converting a mesh code for displaying a position in a combination of a block number of a block, a unit number of a unit, and a mesh number of a mesh, wherein a world map is divided into six in the east-west direction along longitudes at intervals of 60 degrees, and divided into at least three in the south-north direction along latitudes to define a plurality of numbered blocks, each of said blocks is divided into 100 in the east-west direction and in the south-north direction, respectively, to define a plurality of numbered units in a square shape, and each of said units is divided into 10^n in the east-west direction and in the north-south direction, respectively, to define a plurality of numbered meshes in a square shape, and for mutually converting respective latitudes and longitudes of new positioning system coordinates and old positioning system coordinates, and coordinate values of X, Y coordinates corresponding to the new positioning system coordinates, and the old positioning system coordinates, respectively,

said program causing the computer to execute:

block number selection processing for finding in which blocks each of the entered latitude/longitude and the coordinate values are located;

unit number selection processing for finding in which units in the block found by said block number selection processing each of the latitude/longitude and the coordinate values are located;

mesh number selection processing for finding in which meshes in the unit selected by said unit number selection processing each of the latitude/longitude and the coordinate values are located;

home position setting processing for identifying a position by
omitting the unit number and entering only the mesh number when data is
entered;

5 mesh code output processing for selecting and delivering a number
of digits required in accordance with an application from among a mesh code
composed of the block number, the unit number, and the mesh number;

mesh code input processing for entering the mesh code having the
number of digits selected in accordance with an application from among the
block number, the unit number, and the mesh number; and

10 output processing for calculating and delivering the latitude/longitude,
and the coordinate values corresponding to the position represented by the
mesh code.

BEST AVAILABLE COPY